

In The Claims

Kindly enter the claim amendments, without prejudice, as set forth below. A complete listing of the claims is provided, with a parenthetical indication of the status of each claim, and markings to show current changes.

1. (currently amended)

~~\_\_\_\_\_ In the network system~~

~~\_\_\_\_\_ A system for the cross-correlation of data, comprising:~~

~~\_\_\_\_\_ that n (n is any real number of 2) number of computers PC<sub>i</sub>, (integer i represents the number of PC<sub>i</sub> from 0 to n-1)~~

~~\_\_\_\_\_ a plurality n of computers PC<sub>i</sub>, n being a real number which is equal to or greater than 2, and i being an integer from 0 to n-1;~~

~~are connected to a line concentrator or communications network that has a switching function;~~

~~\_\_\_\_\_ wherein said plurality n of computers PC<sub>i</sub> are communicably coupled via a connector with a switch;~~

~~the data distribution method is characterized in that each computer PC<sub>i</sub> has a storage device that is responsible for storing data X<sub>i</sub> (i is an integer from 0 to n-1) that is to be cross correlated;~~

~~\_\_\_\_\_ each of said plurality n of computers PC<sub>i</sub> further including a storage device configured for storing data X<sub>i</sub>;~~

~~the data X<sub>i</sub> noted above on each PC<sub>i</sub> can be divided into n partial data X<sub>i</sub>(j) (j is an integer from 0 to n-1);~~

~~\_\_\_\_\_ data X<sub>i</sub> being divisible into n partial data units X<sub>i</sub>(j), j being an integer from 0 to n-1;~~

~~\_\_\_\_\_ data X<sub>i</sub> being divisible into n partial data units X<sub>i</sub>(k), k being an integer from 0 to n-1;~~

~~computer PC<sub>k</sub> (k is an integer from 0 to n-1) is responsible for the cross correlation processing of partial data X<sub>i</sub>(k) located on each computer PC<sub>i</sub>~~

~~\_\_\_\_\_ a computer PC<sub>k</sub>, wherein computer PC<sub>k</sub> is configured for cross-correlation processing of partial data X<sub>i</sub>(k);~~

~~and further, in each pair including 2 computers which are connected to be able transmit data via the line concentrator or communications network noted above, mutually between 2 computers which are connected;~~

wherein each computer PC<sub>i</sub> of said plurality n is configured to exchange a partial data unit with a partner computer chosen from said plurality n of computers; and

~~the computer repeats steps that computers transmit their allocated partial data to the partner computer which is connected to said computer between each other.~~

wherein each computer PC<sub>i</sub> of said plurality n is configured to exchange additional partial data units with a partner computer chosen from said plurality n of computers.

2. (currently amended) ~~The data distribution method according to~~ The system of claim 1,  
wherein each computer PC<sub>i</sub> of said plurality n is configured to exchange with a partner computer  
~~wherein said step is repeated n-1 partial data units times if when n is even, and n partial data units times when if when n is odd, and each cycle of the step is repeated only between said pair of computers and a same pair of computers is allocated without overlapping through all of the steps.~~

3. (currently amended) ~~In the network system~~

A system for the cross-correlation of data, comprising:  
that n (n is any real number of 2) number of computers PC<sub>i</sub>, (integer i represents the number of PC<sub>i</sub> from 0 to n-1);

a plurality n of computers PC<sub>i</sub>, n being a real number which is equal to or greater than 2,  
and i being an integer from 0 to n-1;

~~are connected to a line concentrator or communications network capable of full duplex transmission with switching function;~~

wherein said plurality n of computers PC<sub>i</sub> are communicably coupled via a connector configured for full duplex transmission and configured for a switching function;

~~the data distribution method is characterized in that each computer PC<sub>i</sub> has a storage device that is responsible for storing data X<sub>i</sub> (i is an integer from 0 to n-1) that is to be cross correlated;~~

each of said plurality n of computers PC<sub>i</sub> further including a storage device configured for storing data X<sub>i</sub>;

the data X<sub>i</sub> noted above on each PC<sub>i</sub> can be divided into n partial data X<sub>i</sub>(j) (j is an integer from 0 to n-1);

data X<sub>i</sub> being divisible into n partial data units X<sub>i</sub>(j), j being an integer from 0 to n-1;

data X<sub>i</sub> being divisible into n partial data units X<sub>i</sub>(k), k being an integer from 0 to n-1;

computer PC<sub>k</sub> (k is an integer from 0 to n-1) is responsible for the cross-correlation processing of partial data X<sub>i</sub>(k) located on each computer PC<sub>i</sub>; and

a computer PC<sub>k</sub>, wherein computer PC<sub>k</sub> is configured for cross-correlation processing of partial data X<sub>i</sub>(k);

further, in computers which are connected to be able transmit data via the line concentrator or communications network noted above, in repeating the step that computers transmit their allocated partial data between the computer which sends data and the computer which receives data, during each step, same computer for sending and same computer for receiving are allocated without overlapping and same computers are allocated without overlapping through all of the steps, and these steps are repeated n-1 times, regardless of whether n being even or odd.

wherein each computer PC<sub>i</sub> of said plurality n is configured to exchange n-1 partial data units with a partner computer; and

wherein each computer PC<sub>i</sub> of said plurality is configured to exchange partial data units with each partner computer once.

4. (currently amended) In the network system

A system for the cross-correlation of data, comprising:

that n (n is any real number of 2) number of computers PC<sub>i</sub>, (integer i represents the number of PC<sub>i</sub> from 0 to n-1)

a plurality n of computers PC<sub>i</sub>, n being a real number which is equal to or greater than 2, and i being an integer from 0 to n-1;

are connected to a line concentrator or communications network that has a switching function;

wherein said plurality n of computers PC<sub>i</sub> are communicably coupled via a connector

with a switch;

~~the data distribution method is characterized in that each computer PC<sub>i</sub> has a storage device that is responsible for storing data X<sub>i</sub> (i is an integer from 0 to n-1) that is to be cross-correlated;~~

each of said plurality n of computers PC<sub>i</sub> further including a storage device configured for storing data X<sub>i</sub>;

~~the data X<sub>i</sub> noted above on each PC<sub>i</sub> can be divided into n partial data X<sub>i</sub>(m) (m is an integer from 0 to n-1) having a size of unit data and can be divided into the block of every consecutive n of the partial data without overlapping;~~

data X<sub>i</sub> being divisible into n partial data units X<sub>i</sub>(m), m being an integer from 0 to n-1;

data X<sub>i</sub> being divisible into n partial data units X<sub>i</sub>(k), k being an integer from 0 to n-1;

~~computer PC<sub>k</sub> (k is an integer from 0 to n-1) is responsible for the cross-correlation processing of partial data X<sub>i</sub>(k) located on each computer PC<sub>i</sub>;~~

a computer PC<sub>k</sub>, wherein computer PC<sub>k</sub> is configured for cross-correlation processing of partial data X<sub>i</sub>(k);

~~and further, in each pair including 2 computers which are connected to be able transmit data via the line concentrator or communications network noted above, mutually between 2 computers which are connected;~~

wherein each computer PC<sub>i</sub> of said plurality n is configured to exchange a partial data unit with a partner computer chosen from said plurality n of computers; and

~~the computer repeats steps that computers transmit their allocated partial data to the partner computer which is connected to said computer between each other.~~

wherein each computer PC<sub>i</sub> of said plurality n is configured to exchange additional partial data units with a partner computer chosen from said plurality n of computers.

5. (currently amended) ~~The data distribution method according to system of claim 4,~~  
~~comprising wherein the block of the  $\alpha$  turn, (where  $\alpha$  is being an integer of 0 and more),~~  
~~wherein the  $\alpha$  turn includes partial data units, numbering from  $n \times \alpha$  to  $(n \times \alpha + n - 1)$ , and~~  
~~comprising partial data unit X<sub>i</sub>(k + n x  $\alpha$ ), the partial data unit X<sub>i</sub>(k + n x  $\alpha$ ) being located on each~~  
~~computer PC<sub>i</sub>, wherein and the computer PC<sub>k</sub> of the k turn is responsible is configured for the~~

cross correlation processing of partial data unit  $X_i(k + n \times \alpha)$  ~~located on each computer PC<sub>i</sub>.~~

6. (currently amended) ~~The data distribution method according to~~ A system according to ~~claims 4 or 5,~~

~~wherein said steps are applied to every block n-1 times if n is an even number, and n times if n is an odd number and each cycle of the step are repeated between the said pairs of computers assigned without overlapping, and all of the steps are repeated between said pairs assigned without overlapping.~~

wherein each computer PC<sub>i</sub> of said plurality n is configured to exchange n-1 partial data units with a partner computer when n is an even number, and n partial data units with a partner computer when n is an odd number; and

wherein each computer PC<sub>i</sub> of said plurality is configured to exchange partial data units with each partner computer once.

7. (currently amended) ~~In the network system~~

A system for the cross-correlation of data, comprising:

~~that n (n is any real number of 2) number of computers PC<sub>i</sub>, (integer i represents the number of PC<sub>i</sub> from 0 to n-1)~~

a plurality n of computers PC<sub>i</sub>, n being a real number which is equal to or greater than 2, and i being an integer from 0 to n-1;

~~are connected to a line concentrator or communications network capable of full duplex transmission with switching function;~~

wherein said plurality n of computers PC<sub>i</sub> are communicably coupled via a connector with a switch;

~~the data distribution method is characterized in that each computer PC<sub>i</sub> has a storage device that is responsible for storing data X<sub>i</sub> (i is an integer from 0 to n-1) that is to be cross-correlated;~~

each of said plurality n of computers PC<sub>i</sub> further including a storage device configured for storing data X<sub>i</sub>;

~~the data X<sub>i</sub> noted above on each PC<sub>i</sub> can be divided into n partial data X<sub>i</sub>(m) (m is an integer~~

~~from 0 to n-1) having a size of unit data and can be divided into the block of every consecutive n of the partial data without overlapping;~~

data  $X_i$  being divisible into n partial data units  $X_i(m)$ , m being an integer from 0 to n-1;

data  $X_i$  being divisible into n partial data units  $X_i(k)$ , k being an integer from 0 to n-1;

~~computer  $PC_k$  (k is an integer from 0 to n-1) is responsible for the cross-correlation processing of partial data  $X_i(k)$  located on each computer  $PC_i$ ;~~

a computer  $PC_k$ , wherein computer  $PC_k$  is configured for cross-correlation processing of partial data  $X_i(k)$ ;

~~and further, in computers which are connected to be able transmit data via the line concentrator or communications network noted above, in repeating the step that computers transmit their allocated partial data between the computer which sends data and the computer which receives data, during each step, same computer for sending and same computer for receiving are allocated without overlapping and same computers are allocated without overlapping through all of the steps;~~

wherein each computer  $PC_i$  of said plurality n is configured to exchange a partial data unit with a partner computer chosen from said plurality n of computers;

~~and these steps are repeated n-1 times, regardless of whether n being even or odd.~~

wherein each computer  $PC_i$  of said plurality n is configured to exchange n-1 partial data units with a partner computer; and

wherein each computer  $PC_i$  of said plurality is configured to exchange partial data units with each partner computer once.

8. (currently amended) ~~The data distribution method~~ A system as in any one of the preceding claims, according to one of claims 1 to 7, in which the ~~that computers  $PC_i$  of said plurality n used in this method~~ are general purpose computers.

9. (currently amended) ~~The data distribution method according to one of claims 1 to 8~~ A system as in any one of the preceding claims, comprising a ~~that the network medium allows configured~~ for full duplex communications.

10. (currently amended) ~~The data distribution method according to one of claims 1 to 9~~ A  
~~system as in any one of the preceding claims, in which that said data~~ data used in this method are  
time series data recorded from radio telescopes.

11. (currently amended) ~~In the network system~~

A system for the cross-correlation of data, comprising:  
~~that n (n is any real number of 2) number of computers PC<sub>i</sub>, (integer i represents the number of~~  
~~PC<sub>i</sub> from 0 to n-1)~~

a plurality n of computers PC<sub>i</sub>, n being a real number which is equal to greater than 2,  
and i being an integer from 0 to n-1;

~~are connected to a line concentrator or communications network that has a switching function;~~

wherein said plurality n of computers PC<sub>i</sub> are communicably coupled via a connector  
with a switch;

~~the data distribution method is characterized in that each computer PC<sub>i</sub> has a storage device that~~  
~~is responsible for storing data X<sub>i</sub> (i is an integer from 0 to n-1) that is to be cross correlated;~~

each of said plurality n of computers PC<sub>i</sub> further including a storage device configured  
for storing data X<sub>i</sub>;

~~the data X<sub>i</sub> noted above on each PC<sub>i</sub> can be divided into n partial data X<sub>i</sub>(j) (j is an integer from~~  
~~0 to n-1);~~

data X<sub>i</sub> being divisible into n partial data units X<sub>i</sub>(j), j being an integer from 0 to n-1;

data X<sub>i</sub> being divisible into n partial data units X<sub>i</sub>(k), k being an integer from 0 to n-1;

~~computer PC<sub>k</sub> (k is an integer from 0 to n-1) is responsible for the cross correlation processing~~  
~~of partial data X<sub>i</sub>(k) located on each computer PC<sub>i</sub> and further;~~

a computer PC<sub>k</sub>, wherein computer PC<sub>k</sub> is configured for cross-correlation processing of  
partial data X<sub>i</sub>(k); and

~~in each pair including 2 computers which are connected to be able to transmit data via the line~~  
~~concentrator or communications network noted above, mutually between 2 computers which are~~  
~~connected;~~

wherein each computer PC<sub>i</sub> of said plurality n is configured to exchange a partial data unit with a partner computer chosen from said plurality n of computers.

~~includes data transmission means which repeats steps that computers transmit their allocated partial data to the partner computer which is connected to said computer between each other.~~

12. (currently amended) ~~In the network system~~

A system for the cross-correlation of data, comprising:

~~that n (n is any real number of 2) number of computers PC<sub>i</sub>, (integer i represents the number of PC<sub>i</sub> from 0 to n-1)~~

a plurality n of computers PC<sub>i</sub>, n being a real number which is equal to or greater than 2, and i being an integer from 0 to n-1;

~~are connected to a line concentrator or communications network that has a switching function;~~

wherein said plurality n of computers PC<sub>i</sub> are communicably coupled via a connector with a switch;

~~the data distribution method is characterized in that each computer PC<sub>i</sub> has a storage device that is responsible for storing data X<sub>i</sub> (i is an integer from 0 to n-1) that is to be cross-correlated;~~

each of said plurality n of computers PC<sub>i</sub> further including a storage device configured for storing data X<sub>i</sub>;

~~the data X<sub>i</sub> noted above on each PC<sub>i</sub> can be divided into n partial data X<sub>i</sub>(m) (m is an integer from 0 to n-1) having a size of unit data and can be divided into the block of every consecutive n of the partial data without overlapping;~~

data X<sub>i</sub> being divisible into n partial data units X<sub>i</sub>(m), m being an integer from 0 to n-1;

data X<sub>i</sub> being divisible into n partial data units X<sub>i</sub>(k), k being an integer from 0 to n-1;

~~computer PC<sub>k</sub> (k is an integer from 0 to n-1) is responsible for the cross-correlation processing of partial data X<sub>i</sub>(k) located on each computer PC<sub>i</sub>, and further,~~

a computer PC<sub>k</sub>, wherein computer PC<sub>k</sub> is configured for cross-correlation processing of partial data X<sub>i</sub>(k); and

~~in each pair including 2 computers which are connected to be able transmit data via the line concentrator or communications network noted above, mutually between 2 computers which are~~

~~connected;~~

wherein each computer PC<sub>i</sub> of said plurality n is configured to exchange a partial data unit with a partner computer chosen from said plurality n of computers.

~~includes data transmission means which repeats steps that computers transmit their allocated partial data to the partner computer which is connected to said computer between each other.~~

13. (currently amended) ~~In the network system~~

A system for the cross-correlation of data, comprising:

~~that n (n is any real number of 2) number of computers PC<sub>i</sub>, (integer i represents the number of PC<sub>i</sub> from 0 to n-1)~~

a plurality n of computers PC<sub>i</sub>, n being a real number which is equal to or greater than 2, and i being an integer from 0 to n-1;

~~are connected to a line concentrator or communications network capable of full duplex transmission with switching function;~~

wherein said plurality n of computers PC<sub>i</sub> are communicably coupled via a connector with a switch;

~~the data distribution method is characterized in that each computer PC<sub>i</sub> has a storage device that is responsible for storing data X<sub>i</sub> (i is an integer from 0 to n-1) that is to be cross correlated;~~

each of said plurality n of computers PC<sub>i</sub> further including a storage device configured for storing data X<sub>i</sub>;

~~the data X<sub>i</sub> noted above on each PC<sub>i</sub> can be divided into n partial data X<sub>i</sub>(j) (j is an integer from 0 to n-1);~~

data X<sub>i</sub> being divisible into n partial data units X<sub>i</sub>(j), j being an integer from 0 to n-1;

data X<sub>i</sub> being divisible into n partial data units X<sub>i</sub>(k), k being an integer from 0 to n-1;

~~computer PC<sub>k</sub> (k is an integer from 0 to n-1) is responsible for the cross correlation processing of partial data X<sub>i</sub>(k) located on each computer PC<sub>i</sub>;~~

a computer PC<sub>k</sub>, wherein computer PC<sub>k</sub> is configured for cross-correlation processing of partial data X<sub>i</sub>(k);

~~and further, in computers which are connected to be able transmit data via the line concentrator~~

~~or communications network noted above;~~

wherein each computer PC<sub>i</sub> of said plurality n is configured to exchange a partial data unit with a partner computer chosen from said plurality n of computers; and  
~~in repeating the step that computers transmit their allocated partial data between the computer which sends data and the computer which receives data, during each step, same computer for sending and same computer for receiving are allocated without overlapping and same computers are allocated without overlapping through all of the steps, and includes data transmission means in which these steps are repeated n-1 times, regardless of whether n being even or odd.~~

wherein each computer PC<sub>i</sub> of said plurality n is configured to exchange n-1 partial data units with a partner computer; and

wherein each computer PC<sub>i</sub> of said plurality is configured to exchange partial data units with each partner computer once.

14. (currently amended) ~~In the network system~~

A system for the cross-correlation of data, comprising:  
~~that n (n is any real number of 2) number of computers PC<sub>i</sub>, (integer i represents the number of PC<sub>i</sub> from 0 to n-1)~~

a plurality n of computers PC<sub>i</sub>, n being a real number which is equal to or greater than 2, and i being an integer from 0 to n-1;

~~are connected to a line concentrator or communications network capable of full duplex transmission with switching function;~~

wherein said plurality n of computers PC<sub>i</sub> are communicably coupled via a connector with a switch;

~~the data distribution method is characterized in that each computer PC<sub>i</sub> has a storage device that is responsible for storing data X<sub>i</sub> (i is an integer from 0 to n-1) that is to be cross-correlated;~~

each of said plurality n of computers PC<sub>i</sub> further including a storage device configured for storing data X<sub>i</sub>;

~~the data X<sub>i</sub> noted above on each PC<sub>i</sub> can be divided into n partial data X<sub>i</sub>(m) (m is an integer from 0 to n-1) having a size of unit data and can be divided into the block of every consecutive n~~

~~of the partial data without overlapping;~~

data  $X_i$  being divisible into  $n$  partial data units  $X_i(j)$ ,  $j$  being an integer from 0 to  $n-1$ ;

data  $X_i$  being divisible into  $n$  partial data units  $X_i(k)$ ,  $k$  being an integer from 0 to  $n-1$ ;

~~computer  $PC_k$  ( $k$  is an integer from 0 to  $n-1$ ) is responsible for the cross-correlation processing of partial data  $X_i(k)$  located on each computer  $PC_i$ ,~~

a computer  $PC_k$ , wherein computer  $PC_k$  is configured for cross-correlation processing of partial data  $X_i(k)$ ;

~~and further, in computers which are connected to be able transmit data via the line concentrator or communications network noted above, in repeating the step that computers transmit their allocated partial data between the computer which sends data and the computer which receives data, during each step, same computer for sending and same computer for receiving are allocated without overlapping and same computers are allocated without overlapping through all of the steps;~~

wherein each computer  $PC_i$  of said plurality  $n$  is configured to exchange a partial data unit with a partner computer chosen from said plurality  $n$  of computers;

~~and data transmission means in which these steps are repeated  $n-1$  times, regardless of whether  $n$  being even or odd.~~

wherein each computer  $PC_i$  of said plurality  $n$  is configured to exchange  $n-1$  partial data units with a partner computer; and

wherein each computer  $PC_i$  of said plurality is configured to exchange partial data units with each partner computer once.

15. (currently amended) ~~The data distribution method according to one of claims 11 to 14~~  
A system as in one of claims 11-14, comprising a ~~that the network medium allows~~ configured  
for full duplex communications.